

ATTACHMENT A

Clean Amended and New Claims

Following herewith is a clean copy of amended claim 12 and new claims 47-62.

Sub 12
12. (twice amended) A confocal endoscope or microscope as claimed in claim 11, wherein said plurality of optical elements provide net deviation or translation, so that said coherent light and said light returning from said sample respectively emerge from said plurality of optical elements substantially parallel to and optically coaxial with its a respective path immediately before impinging said plurality of optical elements.

Sub 48
48. (new) A confocal endoscope or microscope including:
a light source of coherent light for illuminating a sample;
a beam splitter; and
light receiving means, wherein (1) wherein an incident beam of light from said light source is directed onto said beam splitter and hence onto said sample, and (2) wherein light returning from said sample and incident on said beam splitter is deviated by said beam splitter by a small angle relative to said incident beam and is then received by said light receiving means, said light receiving means being located to receive said returning light and near said light source; and
wherein said beam splitter includes polarization rotating means and deviation means to separate light of different polarizations, and operates by optically rotating said coherent light and said returning light.

49. (new) A confocal endoscope or microscope as claimed in claim 48, wherein said polarization rotating means is based on optical rotary dispersion and includes a chiral medium to optically rotate said coherent light and said returning light.

50. (new) A confocal endoscope or microscope as claimed in claim 48, wherein said polarization rotation means includes a Faraday effect material, said material having simultaneously magnetic lines of force in the same direction as the propagation

direction of said light, whereby the E vector of said coherent light is rotated as it passes through said material .

51. (new) A confocal endoscope or microscope as claimed in claim 48, wherein said polarization rotation means includes phase plates or retardation elements, of a material whose structure is anisotropic at a molecular or crystalline level.

52. (new) A confocal endoscope or microscope as claimed in claim 48, wherein said polarization rotation means includes liquid crystals.

53. (new) A confocal endoscope or microscope as claimed in claim 52, wherein said liquid crystals are optically active and/or birefringent.

54. (new) A confocal endoscope or microscope as claimed in claim 52, wherein said liquid crystals are cholesteric liquid crystals.

55. (new) A confocal endoscope or microscope as claimed in claim 48, wherein said optical rotation is provided by intrinsic polarization properties of the sample or of any intermediate optical medium.

56. (new) A method for maintaining registration in a confocal endoscope or microscope including a light source and a light receiving means, including the steps of:

splitting light returned from a sample with a small angle deviation beam splitter;
employing said light source and said light receiving means located on a single moveable mounting means; and
moving said mounting means to scan said light source and thereby said sample.

57. (new) A method as claimed in claim 56, wherein said beam splitter includes a plurality of optical elements selected from prisms, lenses, or both prisms and lenses.

58. (new) A method as claimed in claim 57, wherein said plurality of prisms and/or lenses provide a net deviation which is minimal.

59. (new) A method as claimed in claim 57, including moving said beam splitter with said light source and said light receiving means.

60. (new) A method as claimed in claim 56, wherein said moving of said mounting means comprises vibrating said mounting means.

61. (new) A method as claimed in claim 56, wherein said mounting means is a reed.

62. (new) A method as claimed in claim 56, wherein said mounting means is an electromagnetically vibrated reed.

ATTACHMENT B

Marked Up Copy of Amended and New Claims

Following herewith is a marked up copy amended claim 12 together with new claims 48-62 showing changes thereto from the previous similar claims 27-41.

12. (twice amended) A confocal endoscope or microscope as claimed in claim 11, wherein said plurality of optical elements provide net deviation or translation, so that said coherent light and said light returning from said sample respectively emerge from said plurality of optical elements substantially parallel to and optically coaxial with it's a respective path immediately before impinging said plurality of optical elements.

2748. (new) A confocal endoscope or microscope including:

a light source of coherent light for illuminating a sample;

a beam splitter; and

light receiving means, wherein (1) wherein an incident beam of light from said light source is directed onto said beam splitter and hence onto said sample, and (2) wherein light returning from said sample and incident on said beam splitter is deviated by said beam splitter by a small angle relative to said incident beam, and is then received by said light receiving means, said light receiving means being located to receive said returning light and near said light source, and

wherein said beam splitter includes ~~polarisation~~polarization rotating means and deviation means to separate light of different ~~polarisations~~polarizations, and operates by optically rotating said coherent light and said returning light.

2849. (new) A confocal endoscope or microscope as claimed in claim 2648, wherein said ~~polarisation~~polarization rotating means is based on optical rotary dispersion and includes a chiral medium to optically rotate said coherent light and said returning light.

2950. (new) A confocal endoscope or microscope as claimed in claim 2748, wherein said ~~polarisation~~polarization rotation means includes a Faraday effect material, said material having simultaneously magnetic lines of force in the same direction as the

propagation direction of said light, whereby the E vector of said coherent light is rotated as it passes through said material .

3051. (new) A confocal endoscope or microscope as claimed in claim 2748, wherein said ~~polarisation~~polarization rotation means includes phase plates or retardation elements, of a material whose structure is anisotropic at a molecular or crystalline level.

3452. (new) A confocal endoscope or microscope as claimed in claim 2748, wherein said ~~polarisation~~polarization rotation means includes liquid crystals.

3253. (new) A confocal endoscope or microscope as claimed in claim 3452, wherein said liquid crystals are optically active and/or birefringent.

3354. (new) A confocal endoscope or microscope as claimed in claim 3452, wherein said liquid crystals are cholesteric liquid crystals.

3455. (new) A confocal endoscope or microscope as claimed in claim 2548, wherein said optical rotation is provided by intrinsic ~~polarisation~~polarization properties of the sample or of any intermediate optical medium.

3556. (new) A method for maintaining registration in a confocal endoscope or microscope including a light source and a light receiving means, including the steps of:
splitting light returned from a sample with a small angle deviation beam splitter;
employing said light source and said light receiving means located on a single moveable mounting means; and
moving said mounting means to scan said light source and thereby said sample.

3657. (new) A method as claimed in claim 3556, wherein said beam splitter includes a plurality of optical elements selected from prisms, and/or lenses, or both prisms and lenses.

3758. (new) A method as claimed in claim 3657, wherein said plurality of prisms and/or lenses provide ~~minimal~~ a net deviation which is minimal.

3859. (new) A method as claimed in claim 3657, including moving said beam splitter with said light source and said light receiving means.

3960. (new) A method as claimed in claim 5635, wherein said moving of said mounting means comprises vibrating said mounting means.

4061. (new) A method as claimed in claim 5635, wherein said mounting means is a reed.

4162. (new) A method as claimed in claim 5635, wherein said mounting means is an electromagnetically vibrated reed.